

### REMARKS

This Amendment is in response to the Office Action of April 24, 2009. In the Office Action, Claims 1-4, 7-13, 16-20 and 23-25 were rejected. The action was made Final. With this Amendment, Claims 1, 2, 4, 10, 12, and 19 are amended, and Claims 1-4, 7-13, 16-20 and 23-25 are presented for reconsideration and allowance.

#### Finality of the Office Action

The Office Action was made final. The Examiner suggested that "no substantial amendments have been made" to the claims. Applicant strongly disagrees with this suggestion.

Claim 1, as it was presented in Applicant's Amendment of January 19, 2009, included limitations to "a first line driver coupled to transmit control primitive data that includes an adjustable pre-emphasis and that has a response to the first physical layer quality data". Claim 10, as it was presented in Applicant's Amendment of January 19, 2009, included limitations to "a line driver coupled to transmit control primitive data that includes an indication of frequency rolloff and that is responsive to the physical layer quality data". Claim 19, as it was presented in Applicant's Amendment of January 19, 2009, included limitations to "a quality sensing circuit that makes a comparison of a quality standard to a physical layer quality that includes an amplitude and a frequency rolloff, and that generates control primitives representative of the comparison".

The limitations in amended independent Claims 1, 10 and 19, for example, were not present in any of the originally filed claims 1-15. The amended claims presented in Applicant's Amendment of January 19, 2009 do substantially change the scope of the claims and narrow the claims in certain respects. In particular, the limitation in independent Claim 1 "a first line driver ... that has a response to the first physical layer quality data" was not present in any of the originally filed claims. The limitation of independent Claim 10 to "a line driver ... that is responsive to physical layer quality data" was not present in any of the originally filed claims. The limitation in independent Claim 19 to "a physical layer quality that includes an amplitude and a frequency rolloff" was not present in any of the originally filed claims.

In the second (Final) Office Action, Claims 3, 5, 6, 12, 14, 15, 29, 22 were rejected after being indicated to be allowable on the first Office Action. The Examiner's first rejection of these Claims came in a final rejection, and the finality appears to be improper.

Applicant requests that the Finality of the Office Action be reconsidered and withdrawn. Applicant requests that the attached claims, which are presently further amended, be considered and allowed.

#### Claim Rejections 35 USC 112

Claim 12 was rejected under 35 USC 112, second paragraph based on lack of antecedent basis for the phrases "the received first signal" and "the second control primitives". Antecedent basis for "the received first signal" is "a received first signal" at line 3 of amended Claim 12. Claim 12 is amended to remove the reference to "the second control primitives". Withdrawal of the rejections of Claim 12 and reconsideration and allowance of Claim 12 are therefore requested.

Claim 19 was rejected under 35 USC 112, second paragraph based on lack of antecedent basis for the phrase "the received physical layer". With this Amendment, Claim 19 is amended to remove the word "received" from this phrase. Withdrawal of the rejection of Claim 19 and reconsideration and allowance of Claim 19 are therefore requested.

#### Claim Rejections - 35 USC 103

Claims 1, 2, 4, 7-11, 13, 16-19 and 23-25 were rejected under 35 USC 103(a) over Ghaffari et al. U.S. Patent 6,829,663 in view of Lo et al. U.S. Patent Publication 2004/0010625.

With this Amendment, independent Claim 1 is amended to include limitations to "the first physical layer quality data including a quality of at least one of a voltage amplitude, a current amplitude and an impedance matching characteristic" and "a response to the first physical layer quality data that adjusts the physical layer quality to a quality standard". With this Amendment, independent Claim 10 is amended to include limitations to "the physical layer quality data including a quality of at least a frequency rolloff", and "control primitive data that

includes an indication of the quality of the frequency rolloff". With this Amendment, independent Claim 19 is amended to include limitations to "a quality sensing circuit that makes a quality comparison of a quality standard to a physical layer quality that includes an amplitude and a frequency rolloff, and that generates control primitives that include data representative of the quality comparison" and "a first line receiver at the first end receiving the control primitives to provide closed loop control of the physical layer quality as a function of the data representative of the quality comparison".

Neither Ghaffari nor Lo, taken singly or in combination, teach or suggest "the first physical layer quality data including a quality of at least one of a voltage amplitude, a current amplitude and an impedance matching characteristic" and "a response to the first physical layer quality data that adjusts the physical layer quality to a quality standard" as presently Claimed in Claim 1.

Neither Ghaffari nor Lo, taken singly or in combination, teach or suggest "the physical layer quality data including a quality of at least a frequency rolloff", and "control primitives data that includes an indication of the quality of the frequency rolloff" as presently claimed in Claim 10.

Neither Ghaffari nor Lo, taken singly or in combination, teach or suggest "a quality sensing circuit that makes a quality comparison of a quality standard to a physical layer quality that includes an amplitude and a frequency rolloff, and that generates control primitives that include data representative of the quality comparison" and "a first line receiver at the first end receiving the control primitives to provide closed loop control of the physical layer quality as a function of the data representative of the quality comparison" as presently claimed in Claim 19.

Ghaffari discloses primitives and primitive encoder 216 and primitive decoder 212 in a link layer in FIG. 2 and at column 6, lines 10-14. Ghaffari, however, does not teach or suggest primitives that include "control primitive data ... that adjusts the physical layer quality" as presently claimed in Claim 1. "Primitives" as known in the art at the time of the invention did not comprise control primitive data, but instead were simply commands or indications of events. See for example, Computer Networks, 2nd Ed., Andrew S. Tanenbaum, ISBN 0-13-162959-X,

Prentice Hall, "1.5.3 Service Primitives", pages 24-26 (attached non-patent literature). Lo also does not teach or suggest "control primitive data ... that adjusts the physical layer quality" as presently Claimed in Claim 1. Neither Ghaffari nor Lo, taken singly or in combination teach or suggest "control primitive data ... that adjusts physical layer quality" as presently claimed in Claim 1. Likewise in Claim 10, as presently amended, includes a limitation to "control primitive data that includes an indication of the quality of the frequency rolloff", a feature that is neither taught nor suggested in Ghaffari and Lo, taken singly or in combination. Claim 19, as presently amended, includes a limitation to "control primitives that include data representative of the quality comparison", and this limitation is not taught or suggested by Ghaffari or Lo, taken singly or in combination.

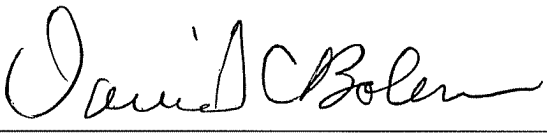
Independent Claims 1, 10 and 19 are thus non-obvious and patentable. Withdrawal of the rejections of Claims 1, 10 and 19, and reconsideration and allowance of Claims 1, 10 and 19, as presently amended, are therefore requested. Dependent Claims 2, 4, 7-9, 11, 13, 16-18 and 23-25 include additional limitations that, when taken in combination with their respective base independent Claims 1, 10 or 19, are also non-obvious and patentable. Withdrawal of the rejections of dependent Claims 2, 4, 7-9, 11, 13, 16-18 and 23-25, and reconsideration and allowance of Claims 2, 4, 7-9, 11, 13, 16-18 and 23-25, as presently amended, are therefore requested.

#### CONCLUSION

The other art made of record by the Examiner (Chan '734, Chan '865, Betts '519, Barkaro '873 and Wang '705) has been considered, and the Claims are considered patentable over these references as well. The Application appears to be in condition for allowance of Claims 1-4, 7-13, 16-20 and 23-25. The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

WESTMAN, CHAMPLIN & KELLY, P.A.

By: 

---

David C. Bohn, Reg. No. 32,015  
900 Second Avenue South, Suite 1400  
Minneapolis, Minnesota 55402-3319  
Phone: (612) 334-3222 Fax: (612) 334-3312

Attached: Non patent literature

DCB/abs